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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,083	01/14/2002	Paul Harry Abbott	GB920010052US1	6326
29683	7590	07/01/2005	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			WILLIAMS, JEFFERY L	
			ART UNIT	PAPER NUMBER
			2137	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,083

Applicant(s)

ABBOTT ET AL.

Examiner

Jeffery Williams

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Drawings***

The drawings are objected to because of the improper usage of trademarked names. JVM and Java are registered trademarks (See objection of specification below). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because of the improper usage of trademarked names. JVM and Java are registered trademarks (See objection of specification below). Correction is required. See MPEP § 608.01(b).

The use of the trademarks JVM and Java has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 – 6 and 7 – 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 5, 8, and 11 each recite the limitation "the plurality of files" in lines 3, 5, 3, and 5, respectively. There is insufficient antecedent basis for this limitation in the

Art Unit: 2137

1 claim. The applicant has claimed a "primary library file" and a plurality of "secondary
2 files". However, it has not been definitively stated what constitutes the plurality of files.
3 For the purposes of examination, it will be presumed that the "plurality of files"
4 comprises the totality of the primary library file and the secondary files.

5
6 Claims 3, 4, 9, and 10 each recite the limitation "the internet" in lines 4, 6, 4, and
7 6, respectively. There is insufficient antecedent basis for this limitation in the claim as
8 no prior mention has been made of an internet in any of the parent claims.

9
10 Claims 6 and 12 contain the trademark/trade name Java. Where a trademark or
11 trade name is used in a claim as a limitation to identify or describe a particular material
12 or product, the claim does not comply with the requirements of 35 U.S.C. 112, second
13 paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope
14 is uncertain since the trademark or trade name cannot be used properly to identify any
15 particular material or product. A trademark or trade name is used to identify a source of
16 goods, and not the goods themselves. Thus, a trademark or trade name does not
17 identify or describe the goods associated with the trademark or trade name. In the
18 present case, the trademark/trade name is used to identify/describe a type of virtual
19 machine and, accordingly, the identification/description is indefinite.

20
21 Claim 7 recites the limitation "the secondary files" in lines 14 and 16. There is
22 insufficient antecedent basis for this limitation in the claim.

Art Unit: 2137

Claim 13 has been rejected by virtue of its dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5 – 8, and 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McManis, "System and Method for Protecting Use of Dynamically Linked Executable Modules", U.S. Patent 5,757,914.

Regarding claim 1, McManis discloses:

a primary library file, the primary library file having a digital signature (McManis, col. 1, line 65 – col. 2, line 11; col. 1, lines 48-63).

a loader program arranged to obtain a digital signature key and further arranged to load the primary library file (McManis, fig. 1, elems. 110, 112; col. 2, lines 22 – 37, 40-43). The verifier is a "loader program" as it enables the loading of each program module, including the primary program module.

and a plurality of secondary files arranged to be referenced by the primary library file, each of the plurality of secondary files having a digital signature (McManis, fig. 1, elems. 116, 118, 120; col. 2, lines 1,2; col. 3, lines 17-21).

Art Unit: 2137

McManis shows the operation of his system in a slice in time (McManis, col. 2, lines 53-55). He does not disclose the details regarding the initialization of his system, but instead shows how his loader program enables the loading of the primary and secondary files via the verification of digital signatures. Consequently, McManis does not disclose an initial digital signature verification of the primary file by the loader program, an initial loading of the primary file by the loader program.

However, McManis discloses that every file, including the primary file, contains a digital signature and that the digital signature is necessary to verify the authenticity of every called file before that file is loaded (McManis, col. 1, line 65 – col. 2, line 44). It would have been obvious to one of ordinary skill in the art to arrange, at the time of initialization, for the loader program to initially verify the digital signature of the primary file and initially load the primary file. This would have been obvious because one of ordinary skill in the art would have been motivated to verify the authenticity of the primary file, as taught by McManis, when the primary file is initially loaded - so as to protect the system's integrity at all times.

Regarding claim 2, the modification of McManis discloses:

the plurality of files including at least one tertiary file referenced by at least one secondary file of the plurality secondary files, wherein after successful verification and selective loading of the at least one secondary file, the at least one secondary file is arranged to manage the verification and selective loading of the at least one tertiary file (McManis, fig. 1, elems. 118, 120; col. 3, lines 12-21, 30-37). McManis discloses that

Art Unit: 2137

1 each file can contain a plurality of procedure calls to other files, thus a secondary file
2 may call a tertiary file.

3
4 Regarding claim 5, the modification of McManis discloses that all files contain
5 digital signatures so that they may be verified with a digital signature key (McManis, col.
6 2, lines 22-37). McManis further discloses that verifiable files may contain a number of
7 portions, including a methods portion and a data portion. Each portion is verified by a
8 separate digital signature (McManis, col. 4, lines 54-67). Thus, McManis discloses the
9 digital signature key used to verify the file as being a combination of keys. These
10 verifiable files are often authored, maintained, or updated ("administrated") by others
11 ("administrators"), which is why they are linked dynamically during program execution
12 (McManis, col. 1, lines 10-27). Thus, the modification of McManis discloses at least one
13 of the files being an administrator configurable file.

14
15 Regarding claim 6, the modification of McManis does not disclose that the
16 system is a Java Virtual Machine installation. However, the system of McManis,
17 assigned to Sun Microsystems, Inc., is disclosed as being operable on "virtually any
18 type of computer", including architecturally distinct systems such as Sun workstations,
19 IBM compatible computers, and Macintosh computers. It would have been obvious to
20 one of ordinary skill in the art, based upon logical reasoning, to employ a virtual
21 machine installation such as Java in the system of McManis. This would have been
22 obvious because one of ordinary skill in the art would have logically recognized that a

Art Unit: 2137

1 virtual machine installation such a Java would allow the system of McManis to be
2 employed on such a diverse and distinct set of architectures.

3
4 Regarding claims 7, 8, 11, and 12, they are the method claims employed by the
5 system claims above, and are rejected by the same reasons.

6
7 Regarding claim 13, it is the computer program claim employed the system
8 claims above, and is rejected by the same reasons.

9
10 **Claims 3, 4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being**
11 **unpatentable over McManis, "System and Method for Protecting Use of**
12 **Dynamically Linked Executable Modules", U.S. Patent 5,757,914 in view of**
13 **Menezes et al., Handbook of Applied Cryptography.**

14
15 Regarding claim 3, the modification of McManis discloses the use of a public key
16 as a digital signature key (McManis, col. 3, lines 38-50). He does not disclose that the
17 public key is obtained from the internet.

18 Menezes et al. discloses the key management techniques used to share keying
19 material (Menezes et al., pages 543, 544). In public-key systems, entities requiring
20 public keys obtain the public keys via an internet ("inter network") of certification
21 authorities, key servers, and key management facilities (Menezes et al., pages 548-
22 550).

Art Unit: 2137

1 It would have been obvious to one of ordinary skill in the art to employ the
2 method Menezes et al. for obtaining public keys via an internet with the system of
3 McManis for using a public digital signature key. This would have been obvious
4 because one of ordinary skill in the art would have been motivated to efficiently utilize
5 system resources by having the public key be obtained from a remote source instead of
6 the program modules themselves generating the public/private key pairs.

7
8 Regarding claim 4, the combination of McManis and Menezes et al. discloses:
9 *the digital signature key being a hidden public key internal to the loader program,*
10 *the loader program being arranged to use the hidden public key the event that a public*
11 *key cannot be obtained via the internet* (McManis, col. 4, lines 7-53). The combination
12 of McManis and Menezes et al. shows that public keys used for digital signature
13 generation would be obtained from an internet. The loader program obtains the public
14 key and inherently stores the key internally (as would be required in order to perform the
15 processing of the digital signatures), thus using the obtained key even if it couldn't be
16 obtained by the loader program from an internet.

17
18 Claims 9 and 10 are the method claims employed by the system claims 3 and 4,
19 and are rejected by the same reasons.

20

21

22

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

McManis, "System and Method for Executing Verifiable Programs with Facility for Using Non-Verifiable Programs from Trusted Sources", U.S. Patent 6,070,239.

McManis, "System and Method for Protecting Use of Dynamically Linked Executable Modules", U.S. Patent 6,546,487 B1.

McManis, "System and Method for Protecting Use of Dynamically Linked Executable Modules", U.S. Patent 5,970,145.

Knutson, "Method and Apparatus for Licensing Computer Programs Using a DSA Signature", U.S. Patent 6,087,909.

Koved, "Multiple Resource or Security Contexts in a Multithreaded Application", U.S. Patent 5,915,085.

Bodrov, "System and Method of Verifying the Authenticity of Dynamically Connectable Executable Images", U.S. Patent 6,802,006 B1.

Jablon et al., "Method and Apparatus for Assessing Integrity of Computer System Software", U.S. Patent 5,421,006.

Fong et al., "Proof Linking: An Architecture for Modular Verification of Dynamically-Linked Mobile Code", 1998, ACM.

Koved et al., "The Evolution of Java Security", 1998, IBM.

Art Unit: 2137

1
2
3 A shortened statutory period for reply is set to expire 3 months (not less than 90
4 days) from the mailing date of this communication.

5 Any inquiry concerning this communication or earlier communications from the
6 examiner should be directed to Jeffery Williams whose telephone number is (571) 272-
7 7965. The examiner can normally be reached on 8:30-5:00.

8 If attempts to reach the examiner by telephone are unsuccessful, the examiner's
9 supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone
10 number for the organization where this application or proceeding is assigned is (703)
11 872-9306.

12 Information regarding the status of an application may be obtained from the
13 Patent Application Information Retrieval (PAIR) system. Status information for
14 published applications may be obtained from either Private PAIR or Public PAIR.
15 Status information for unpublished applications is available through Private PAIR only.
16 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should
17 you have questions on access to the Private PAIR system, contact the Electronic
18 Business Center (EBC) at 866-217-9197 (toll-free).

19
20
21 Jeffery Williams
22 Assistant Examiner
23 Art Unit 2137
24 6.21.2005


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